



Reference: 004324

May 27, 2005

Mr. Bob Stone
Humboldt County Division of Environmental Health
100 H Street, Suite 100
Eureka, CA 95501

**Subject: Site Investigation Report of Findings and Closure Request, Umpqua Bank
409 H Street, Eureka, California; Case No. 12540**

Dear Mr. Stone:

Introduction

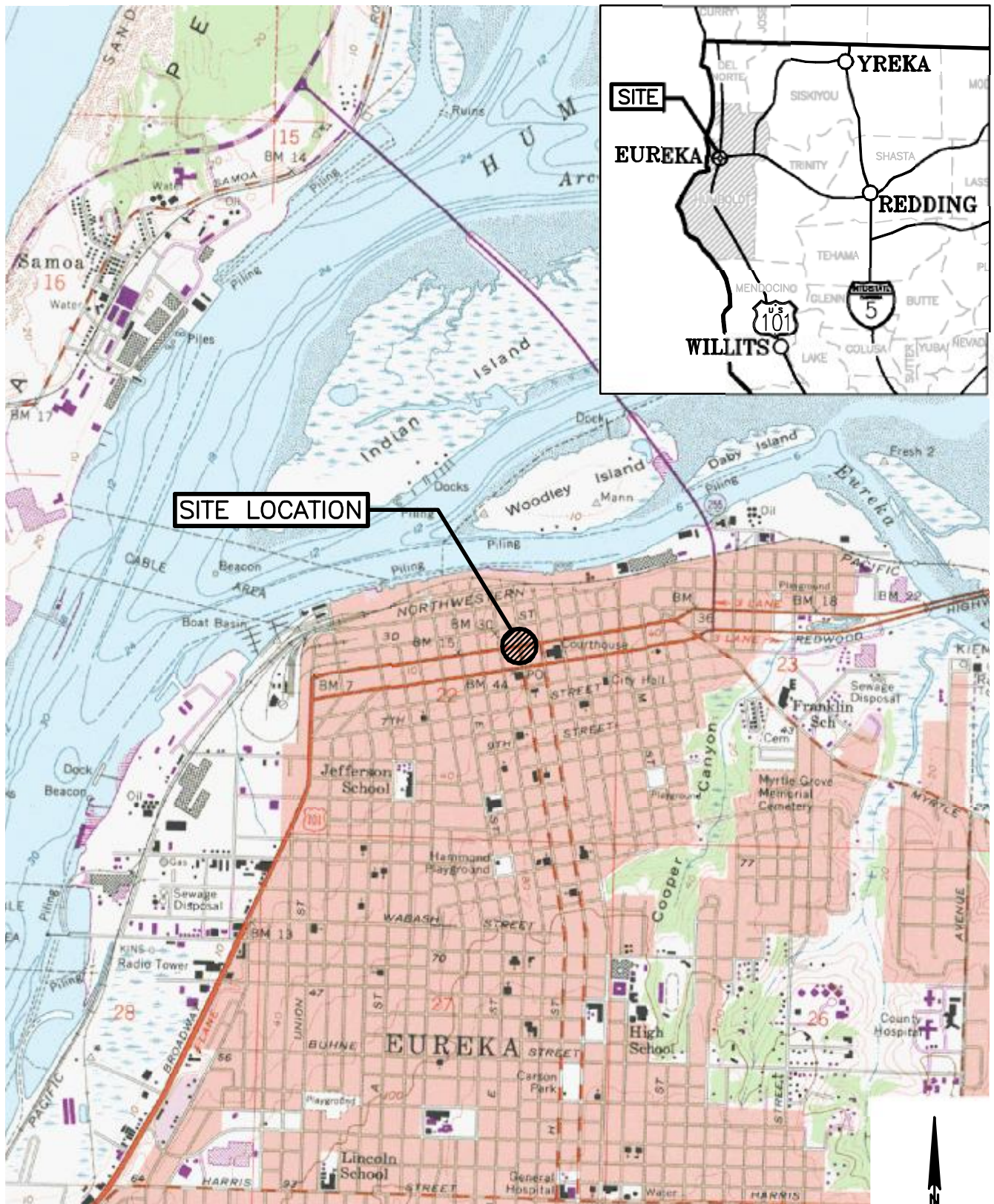
Enclosed is the preliminary site investigation report of findings and request for closure for the Umpqua Bank site, which is located at 409 H Street, in Eureka, California (Figure 1). Activities were conducted at the site to investigate petroleum hydrocarbon contamination in soil and groundwater associated with two Underground Storage Tanks (USTs) formerly located at the site. Based on the results provided by the subsurface investigation, this site appears to be a suitable candidate for closure and we are requesting that a no further action letter be issued for the site

Field activities were conducted at the site on March 28, 2005, in accordance with the approved February 10, 2005, *Site Investigation Work Plan, Umpqua Bank, 409 H Street, Eureka, California: LOP Case No. 12540*. This report contains a brief discussion on the background of the site, a summary of the activities and results of the work completed at the site, a discussion of the findings, and a request for site closure. This report was prepared by SHN Consulting Engineers & Geologists, Inc. (SHN), and was completed as requested by the Humboldt County Division of Environmental Health (HCDEH).

Background

The subject site is located at the Umpqua Bank parking lot, on the southeast corner of 4th and H Streets in Eureka, California (Figure 2). Two Underground Storage Tanks (USTs) were formerly located at the site for the purpose of storing heating fuel, presumed to be Bunker C. The presence of the UST on 4th Street was initially identified by the California Department of Transportation in December of 1989 during preliminary work for roadway rehabilitation. The presence of the 4th Street UST was confirmed by the Humboldt – Del Norte County Department of Public Health on December 21, 1989 through fill ports located in the sidewalk (January 1990). The date of the UST identification on H Street was undetermined.

In April of 1995, two USTs were removed from the site by Beacom Construction. Tank 1 was a 265-gallon single-walled steel tank located along 4th Street, and Tank 2 was a 470-gallon single-walled steel tank located along H Street (Figure 2). Both tanks reportedly had evidence of corrosion with holes present in the tanks. A small volume of a heavy fuel material was removed from each tank.



SOURCE: EUREKA
USGS 7.5 MINUTE
QUADRANGLE

1"=2000'±

SHN
Consulting Engineers
& Geologists, Inc.

Umpqua Bank
409 H Street
Eureka, California

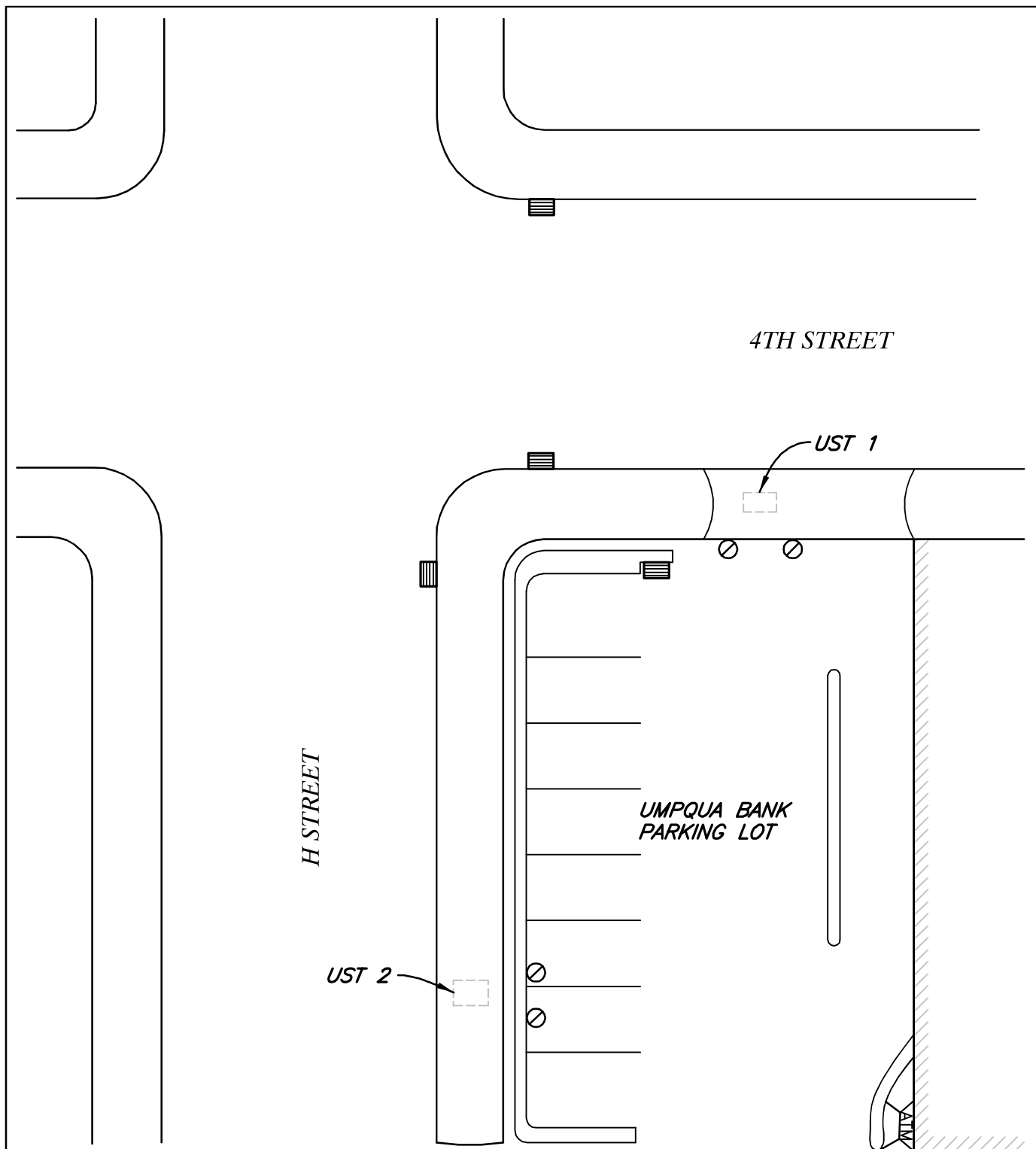
Site Location Map

SHN 004324


JANUARY 2005

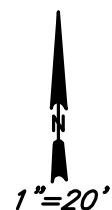
004324-LOCATION

Figure 1



EXPLANATION

-  FORMER UST LOCATION AND DESIGNATION
 UST 2
 PROPOSED SOIL BORING LOCATION



SH
Consulting Engineers
& Geologists, Inc.

Umpqua Bank
409 H Street
Eureka, California

Site Plan

SHN 004324

JANUARY 2005

004324-S11

Figure 2

Soil samples were collected from the tank excavation pits for chemical analysis. No groundwater was observed during tank removal activities. The analytical results from soil samples collected at the site detected Total Petroleum Hydrocarbons for oil and grease (TPH) and Total Petroleum Hydrocarbons as Diesel (TPHD). Components of Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) were not detected in the tank excavation pit soil samples. The HCDEH issued an unauthorized release report for the site following the soil sample laboratory results (HCDEH, 1995). No additional site characterization has occurred at the site following the UST removal.

Objective

The objective of this work was to investigate the presence of petroleum hydrocarbons in soil and groundwater in the vicinity of the former UST locations at the subject site.

Scope of Work

This scope of work was designed to provide the information needed to meet the objective of this investigation, and included:

- Project implementation, including subcontractor coordination and permit acquisition
- Installation of 4 soil borings/well points
- Collection of soil and groundwater samples
- Submittal of soil and groundwater samples for laboratory analysis
- Preparation of a report of findings

Project Implementation

In addition to providing the work plan, SHN coordinated all activities related to the project, including obtaining all necessary permits and corresponding with the HCDEH. Underground Service Alert was notified prior to the commencement of field activities.

Field Activities

The field program consisted of completing soil borings in the area of the former UST locations, utilizing direct-push technology. Soil and groundwater samples were collected from each boring location and submitted for laboratory analysis. All activities were conducted according to the approved work plan.

Soil Borings and Sample Collection

On March 28, 2005, SHN supervised Fisch Environmental of Valley Springs, California, in the installation of four soil borings at the site (SB-1 through SB-4, Figure 2). The soil borings were completed utilizing a truck-mounted Geoprobe® unit. The soil borings were drilled at an angle of 30° to access native soils beneath each UST, and extended to depths ranging from approximately 11 to 13 feet Below Ground Surface (BGS). Field notes and the boring logs for each direct-push soil boring location are contained in Attachment 1.

Each soil boring was continuously cored in 4-foot sections using a hollow, stainless steel sampler lined with 1.75-inch Inside Diameter (I.D.) plastic tubes. Following retrieval of each 4-foot core, the plastic tube was removed and the core was visually inspected for lithologic interpretation and the identification of potential areas of contamination. In addition to visual inspection, the cored material was screened in the field using an Organic Vapor Analyzer (OVA).

One soil sample was collected from each boring location and submitted for chemical analysis. The soil samples were labeled with location, depth, date and time of collection, analysis requested, and the sampler's initials. The samples were placed in an iced cooler and transported under chain-of-custody documentation to a State of California certified analytical laboratory for chemical analysis. Soil samples were analyzed according to the methods discussed in the Laboratory Analysis Section of this report.

Temporary Well Points and Groundwater Sample Collection

Upon completion of each direct-push soil boring, the location was converted to a temporary well point for the collection of groundwater samples. The well points were constructed using ¾-inch I.D. Polyvinyl Chloride (PVC) casing and 0.010-inch slotted well screen. Temporary well point specifications for each location are presented in the soil boring logs in Attachment 1. The well points were purged of approximately 3 casing volumes of water and sampled using clean disposable tubing fitted with a check valve. Each groundwater sample was collected in pre-cleaned, laboratory-supplied containers.

The groundwater samples were labeled with location, date and time of collection, analysis requested, and the sampler's initials. The samples were placed in an iced cooler and transported under chain-of-custody documentation to a State of California certified analytical laboratory for chemical analysis. Groundwater samples were analyzed according to the methods discussed in Laboratory Analysis section of this report.

Following groundwater sample collection, the temporary well points were removed and the borings were backfilled with bentonite hole plug. The boring locations were sealed at grade to match the existing surface conditions.

Laboratory Analysis

Soil and groundwater samples collected during the site investigation were analyzed for TPHD and Total Petroleum Hydrocarbons as Motor Oil (TPHMO). Soil samples were analyzed in general accordance with U.S. Environmental Protection Agency (EPA) Method No. 3550 and groundwater samples were analyzed in general accordance with EPA Method No. 3510. Samples were submitted for analysis to North Coast Laboratories, Ltd., a State of California certified analytical laboratory located in Arcata, California.

Equipment Decontamination Procedures

All drilling equipment was cleaned prior to arriving on site, and washed between each boring location. Small equipment that required on-site cleaning during the site investigation was cleaned

using a triple wash system. The equipment was first washed in a water solution containing Liquinox® cleaner, followed by a distilled water rinse, then by a second distilled water rinse. Soil and water samples were collected in pre-cleaned containers supplied by the drilling contractor and analytical laboratory.

Investigation-Derived Waste Management

Approximately 5 gallons of water was generated from the decontamination of equipment, and the purging of temporary wells at the site. The water was contained in 5-gallon buckets and transported to the SHN purge water storage tank located at 812 West Wabash Street, in Eureka, California for temporary storage. The water was sampled for chemical analysis and discharged under permit to the City of Eureka wastewater collection system. A discharge receipt for 5-gallons of water is contained in Attachment 1.

Results of the Investigation

Soil Sample Analysis

The analytical results for the soil samples collected during the March 28, 2005 subsurface investigation are presented in Table 1. Laboratory analytical reports are included in Attachment 2. The sample collection depths in Table 1 are listed as the approximate depth BGS. The corresponding sample collection location information is presented below and the calculations are contained in Attachment 1.

Soil boring SB-1 was drilled to 16 feet at an angle of 30°, which resulted in a boring depth of approximately 13.9 feet BGS, and 8 feet from the surface boring location. The sample collected from location SB-1 was collected at 9.0 feet, which resulted in a sample depth of approximately 7.8 feet BGS and 4.5 feet north of the surface boring location.

Soil boring SB-2 was drilled to 14 feet at an angle of 30°, which resulted in a boring depth of approximately 12.1 feet BGS, and 7 feet from the surface boring location. The sample collected from location SB-2 was collected at 9.5 feet, which resulted in a sample depth of approximately 8.2 feet BGS and 4.75 feet north of the surface boring location.

Soil boring SB-3 was drilled to 13 feet at an angle of 30°, which resulted in a boring depth of approximately 11.3 feet BGS, and 6.5 feet from the surface boring location. The sample collected from location SB-1 was collected at 9.25 feet, which resulted in a sample depth of approximately 8.0 feet BGS and 4.6 feet west of the surface boring location.

Soil boring SB-4 was drilled to 14 feet at an angle of 30°, which resulted in a boring depth of approximately 12.1 feet BGS, and 7 feet from the surface boring location. The sample collected from location SB-4 was collected at 9.5 feet, which resulted in a sample depth of approximately 8.2 feet BGS and 4.75 feet west of the surface boring location.

Table 1 Soil Analytical Results, March 28, 2005 Umpqua Bank, Eureka, California (in ug/g)¹			
Sample Location	Sample Depth ² (feet)	TPHD ³	TPHMO⁴
SB-1	7.8	<1.0 ⁵	<10
SB-2	8.2	<1.0	<10
SB-3	8.0	<1.0	<10
SB-4	8.2	<1.0	<10
1. ug/g: micrograms per gram 2. Below ground surface calculated from drilling depth at 30° angle 3. TPHD: Total Petroleum Hydrocarbons as Diesel, analyzed in general accordance with EPA Method No. 3550 4. TPHMO: Total Petroleum Hydrocarbons as Motor Oil, analyzed in general accordance with EPA Method No. 3550 5. <: Denotes a value that is "less than" the method detection limit.			

No detectable concentrations of TPHD or TPHMO were identified above laboratory reporting limits in any of the soil samples collected during the site investigation.

Groundwater Sample Analysis

The results of groundwater samples collected for chemical analysis from each well point location during the March 2005 subsurface investigation are presented in Table 2. Laboratory analytical reports are included in Attachment 2.

Table 2 Groundwater Analytical Results, March 28, 2005 Umpqua Bank, Eureka, California (in ug/L)¹		
Sample Location	TPHD²	TPHMO³
SB-1	<50 ⁴	<170
SB-2	<50	<170
SB-3	<50	520
SB-4	<50	<170
1. ug/L: micrograms per Liter 2. TPHD: Total Petroleum Hydrocarbons as Diesel, analyzed in accordance with EPA Method No. 3510. 3. TPHMO: Total Petroleum Hydrocarbons as Motor Oil, analyzed in general accordance with EPA Method No. 3510 4. <: Denotes a value that is "less than" the method detection limit.		

TPHMO was detected in the groundwater sample collected from the well point at soil boring SB-3 at a concentration of 520 micrograms per Liter (ug/L). No detectable concentrations of TPHD or TPHMO were identified above laboratory reporting limits in any of the other groundwater samples collected during the investigation

Site Lithology and Hydrogeology

Soils underlying the area of investigation consisted primarily of sand with varying amounts of fine-grained material (silts and clays) and were encountered for the entire drilling depth of each boring. Saturated conditions were encountered at the site at a depth of approximately 8.2-feet BGS in the area of UST-1 and at a depth of approximately 8.7-feet BGS in the area of UST-2. Boring logs for each soil boring location are presented in Attachment 1. Groundwater at the site is assumed to be flowing north towards Humboldt Bay; this is based on the observed groundwater flow for sites previously monitored in this area.

Discussion of Findings

Subsurface investigation activities conducted at the Umpqua Bank site have indicated that petroleum hydrocarbon contamination is present in the area of UST-2. However, observations made in the field and the results of soil sample analysis indicate that the petroleum hydrocarbon contamination in soil beneath the former UST locations is minimal. Boring locations were positioned on the side of the USTs, and extended to encounter native soils beneath the USTs. There was no evidence of contamination in soils inspected from the site.

The groundwater sample collected from boring location SB-3 (UST-2) contained TPHMO at a concentration of 520 ug/L. The groundwater sample collected at UST from boring location SB-4 contained no detectable concentrations of TPHMO. The location of boring SB-4 is presumed to be downgradient of location SB-3.

Request for Closure

Results from the site investigation have assessed the presence of petroleum hydrocarbon contamination at the site. The tanks have been removed and the area of significant soil contamination appears to be minor. We believe that any remedial measures conducted at the site would not be economically justified, based on the low levels of residual hydrocarbons that potentially remain at the site. We believe that natural attenuation of petroleum hydrocarbons will continue at the site and that the remaining water quality goals will be achieved within a reasonable timeframe.

Because the site has been investigated, and because appropriate groundwater cleanup goals have been or are expected to be achieved, we respectfully request that the site be considered for closure. SHN recommends that a letter of no further action be issued for the Umpqua Bank regarding the former USTs located at the site. The source has been removed and soil and groundwater concentrations of petroleum hydrocarbons are extremely low and are expected to decrease. No sensitive receptors appear to have been or are currently being impacted by this site.

Bob Stone

Site Investigation Report of Findings and Closure Request, Umpqua Bank, Case No. 12540

May 27, 2005

Page 7

Please call me at 707-441-8855, if you have any questions or comments.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.



Frans B. Lowman, R.G.
Project Manager

FBL/EJN:med

Attachments: 1. Field Notes and Soil Boring Logs
2. Laboratory Analytical Reports



copy: John Ash, JAG Architects

References Cited

Humboldt County Division of Environmental Health. (May 25, 1995). *Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report*. Eureka: HCDEH.

Humboldt-Del Norte County Department of Public Health. (January 12, 1990). *Previously Unregulated Underground Storage Tank, AP#001-141-01, Eureka, California*. NR: Humboldt-Del Norte County Department of Public Health.



CONSULTING ENGINEERS & GEOLOGISTS, INC.

612 W. Wabash • Eureka, CA 95501-2138 • 707-441-8855 • Fax 707-441-8877 • info@shn-eureka.com

DAILY FIELD REPORT

Job No.: 004824

Date: 3/28/05

DFR Sequence No.: 1 of 1

Day Of Week: Mon

Project Engineer: FBL

Supervisor: ESN

Technician

Project Name

Umpqua Bank

Client/Owner

JAL

General Location Of Work

409 H. St. Eureka, CA

Owner/Client Representative

John Ash

General Contractor

SHN

Contractors Onsite

Fisch Co.

Type Of Work

Drilling - soil/GW sampling

Weather

lt. Rain, Wind

800 met Fisch @ SHN, Eureka site

825 @ Umpqua Bank, More Cuts, Ops Rev.

set up Rig @ UST-1,

850 start Drilling SB-1, TD @ 16', WLC @ 9.12

930 set TWP @ SB-1, Purge well, col. sample

1000 move Rig to SB-2, start Drilling

stop Drilling, TD @ 14', WLC @ 9.51

1040 set TWP @ SB-2, Purge well, col. sample

1100 Demolish from 2nd st. Driveway - Break chip

soil borings, install Asphalt Patch

1130 Lunch

1200 move Rig to UST-2, set up @ SB-3

1215 start Drilling SB-3, TD @ 13', WLC @ 9.85

set TWP @ SB-3, Purge well, col. sample

1250 stop move Rig to SB-4, start Drilling

1355 stop Drilling, TD @ 14', set TWP, WLC @ 10.02

purge well, col. sample

1420 clean up, BC SB-3/4, Asphalt patch

1445 offsite, arrange WLC, Prep samples

1 cooler, CDC signed

1530 @ SHN, Unload gear, doc control

1600 End Day

Sample Log #

Soil	depth	Time
SB-1	9.0	915
SB-2	9.5	1030
SB-3	9.25	1240
SB-4	9.5	1350

GW	
SB-1	930
SB-2	1050
SB-3	1255
SB-4	1415

7.5 hrs

Signature and Date

E. Ash

3/28/05

Copy given to:

Reported By:

CONSULTING ENGINEERS
& GEOLOGISTS812 W. Wabash
Eureka, CA 95501707-441-8855
707-441-8877

WELLPOINT LOG

ID: SB-1 PAGE 1 OF 1

PROJECT NAME Umpqua Bank SAMPLER TYPE Macrocone
PROJECT NUMBER 004324 T.D. OF BORING 16'
LOCATION 409 N Street, Eureka T.D. OF WELL 16'
DATE 9/28/05 START 0850 FINISH 925 GROUND ELEV. _____
DRILLING METHOD DPT TOC ELEV. _____
DRILLER Fisch/Rick LOGGED BY ESU BOREHOLE DIAMETER 2.5"

LOCATION MAP

REMARKS	OVA	SAMPLE INTERVAL	% RECOVERY	DEPTH (ft.)	USCS CLASS	LITHOLOGIC DESCRIPTION	WELLPOINT CONSTRUCTION DETAILS	
							CASING TYPE/DIA.	
			90%	0		Asphalt 0.0-0.25		
				2	SM	Silty sand (SM) Brn, m. stiff dense, DP, LEP		Casing 0-11
			90%	4		FL-ML Sand, MBK		
	0.0			6	ML	Sandy silt (ML) olv. Brn, m. st. ff, Dense, DP, LEP		
			100%	8	SP/SM	Sand (SP/SM), Brn		
3 up 4 @ 9.0	0.2			10		m. dense, Dense, NP, Orange mottling, M-HEK		
NL @ 9.12				10	SD			
	0.0		80%	12		sand (SP) olv Brn, soft-m. dense, wet, NP, HEK		Screen 11-16'
				14	SM	Silty sand, Brn, dense, wet, LEP, MCIC		
				16		TD @ 16', 925/3-28-05		
				18				
				20				

COMMENTS

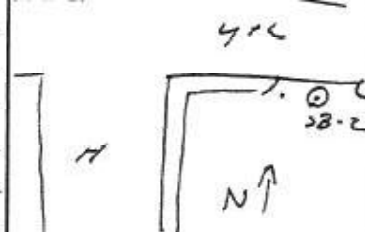
CONSULTING ENGINEERS
& GEOLOGISTS812 W. Wabash
Eureka, CA 95501707-441-8855
707-441-8877

WELLPOINT LOG

ID: SB-2 PAGE 1 OF 1

PROJECT NAME Vampira Bank SAMPLER TYPE Macrotube
PROJECT NUMBER 004324 T.D. OF BORING 14'
LOCATION 404 H St. Eureka T.D. OF WELL 19'
DATE 5/28/05 START 1010 FINISH 1040 GROUND ELEV. _____
DRILLING METHOD DPT TOC ELEV. _____
DRILLER Fitch/Rick LOGGED BY ESN BOREHOLE DIAMETER 2.25"

LOCATION MAP



REMARKS	OVA	SAMPLE INTERVAL	% RECOVERY	DEPTH (ft.)	USCS CLASS	LITHOLOGIC DESCRIPTION	WELLPOINT CONSTRUCTION DETAILS CASING TYPE/DIA. <u>3/4" PVC</u>
			100%	0		Asphalt 0-0.25	
				2	SM	Silty Sand (SM) Brn, m. stiff, Dmp, LP, M&K	
				4	ML	Sandy silt (ML) Lt. Oliv. Brn. (mottled) m. stiff, Dmp, LP, M&K	
	0.0		100%	6	SP/SM	Silty Sand, Brn, m. Dense Dmp, NP, M-M&K.	
	6.0			8			
				10	SP	Sand, Oliv Brn, m. Dense mottled, NP, M&K	
	0.0			12	SM	Silty Sand (SM) Oliv Brn mottled, m. Dense, wet, NP, M&K	
				14			
				16		TD @ 14' 1035/3-28-05	

COMMENTS



CONSULTING ENGINEERS
& GEOLOGISTS

812 W. Wabash
Eureka, CA 95501

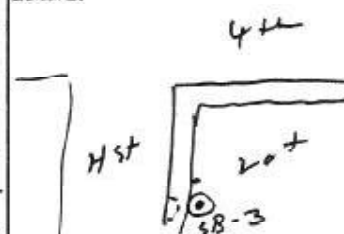
707-441-8855
707-441-8877

WELLPOINT LOG

ID: SB-3 PAGE 1 OF 1

PROJECT NAME Umpqua Bank SAMPLER TYPE Macrocone
PROJECT NUMBER 004324 T.D. OF BORING 13'
LOCATION 909 H. Street, Eureka T.D. OF WELL 13'
DATE 3/28/05 START 1215 FINISH 1245 GROUND ELEV. _____
DRILLING METHOD DPT TOC ELEV. _____
DRILLER Fisch/Rick LOGGED BY EJN BOREHOLE DIAMETER 2-25"

LOCATION MAP



REMARKS	OVA	SAMPLE INTERVAL	% RECOVERY	DEPTH (ft.)	USCS CLASS	LITHOLOGIC DESCRIPTION	WELLPOINT CONSTRUCTION DETAILS CASING TYPE/DIA. <u>3/4" PVC</u>
			75%	0		Asphalt O-G-25	
				2	ML	Sandy silt(ML) Bm, M. st. ff Dmp, LP, LEC	
	0.0		95%	4	SM	Silty Sand(SM) OIL/Bm (mottled) M. Dense, Dmp, VLD MER	Casing 0-8'
	0.0		95%	8			
Sample @ 9.25				10	SP/SM	Silty Sand (SP/SM) Oily Bm m. Dense, moist, NP, M-H&E	
WL @ 9.85	0.0		100%	12		Sand (SP) OIL Bm, m. Dense wet, NP, MER, gravel (11.5-11.7)	Screen 8-13'
				14		Clayey Sand (SC) Bm. M. Dense, wet, LP, M-H&E	
				16			
						TD @ 13' 1245/3-28-05	

COMMENTS

CONSULTING ENGINEERS
& GEOLOGISTS812 W. Wabash
Eureka, CA 95501707-441-8855
707-441-8877

WELLPOINT LOG

ID: SB-4 PAGE 1 OF 1

PROJECT NAME Umpqua Bank SAMPLER TYPE Macramet
PROJECT NUMBER 004324 T.D. OF BORING 14'
LOCATION 409 H T.D. OF WELL 14'
DATE 3/28/05 START 1330 FINISH 1355 GROUND ELEV. _____
DRILLING METHOD DPT TOC ELEV. _____
DRILLER Fisch/Rick LOGGED BY SN BOREHOLE DIAMETER 2.25

LOCATION MAP



REMARKS	O.V.A.	SAMPLE INTERVAL	% RECOVERY	DEPTH (ft.)	USCS CLASS	LITHOLOGIC DESCRIPTION	WELLPOINT CONSTRUCTION DETAILS	
							CASING TYPE/DIA. 3/4" PVC	
Sample @ 9.5 WL @ 10.02	6.0		80	0		Asphalt 0-0.25 Sandy silt (m) Brn, M. stiff Dmp, LP, LOK		Casing 0-9' Screen 9-14'
			80	4		Silty Sand (sm) Brn/H. olive (mottled) M. Dense, Dmp. LP		
	0.0		100	8		Silty Sand (sp/sm) Brn/olive mottled,		
			100	10	SP	Sand (SP) Lt olive, M. Dense wat, NP, HEK		
	0.0		100	12		Silty Sand (sm) olive Brn/gray Brn mottled, M. Dense, wat, NP HEK		
				14		TD @ 14' - 1355/3-28-05		
				16				

COMMENTS

Client Name: **UMPQUA BANK**

The water from your site: **409 H STREET EUREKA, CA**
LOP # 12540

SHN ref # **004324** Collected On: **3/28/05**

Has been tested and certified as acceptable to be discharged into the City of Eureka municipal sewer system.

Amount Discharged: **5 GALLONS**

Date Discharged: **4/29/05**

Certified by: **DAVID R. PAINE**

SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.
City of Eureka Wastewater Discharge Permit #65



ENGINEERS & GEOLOGISTS

812 W. Wabash Ave.
Eureka, CA 95501-2138

Tel: 707 / 441-8855
Fax: 707 / 441-8877

JOB JAG - Umpqua Bank

SHEET NO. 004126

OF

CALCULATED BY ESW

DATE 4/25/05

CHECKED BY

DATE

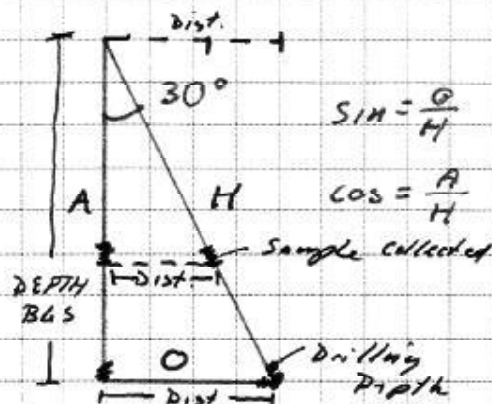
SCALE NA

Site Calculations

$$\text{Depth} = \cos 30^\circ = A/H$$

$$\text{Distance} = \sin 30^\circ = O/H$$

SD = Sample Depth / TD = Total Depth
Drilling and Sampling Depths (TD)
Based on 4' core runs and
corrected for Actual Loc (BLS)



SB-1

$$TD = 16'$$

$$SD = 9'$$

Dist. (ft)

$$\sin 30 = O/16 = 8'$$

$$\sin 30 = O/9 = 4.5'$$

Depth (ft + BLS)

$$\cos 30 = A/16 = 13.86$$

$$\cos 30 = A/9 = 7.79$$

SB-2

$$TD = 14$$

$$SD = 9.5$$

$$\sin 30 = O/14 = 7'$$

$$\sin 30 = O/9.5 = 4.75$$

$$\cos 30 = A/14 = 12.12$$

$$\cos 30 = A/9.5 = 8.23$$

SB-3

$$TD = 13$$

$$SD = 9.25$$

$$\sin 30 = O/13 = 6.5$$

$$\sin 30 = O/9.25 = 4.63$$

$$\cos 30 = A/13 = 11.26$$

$$\cos 30 = A/9.25 = 8.01$$

SB-4

$$TD = 14$$

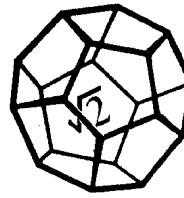
$$SD = 9.5$$

$$\sin 30 = O/14 = 7.0$$

$$\sin 30 = O/9.5 = 4.75$$

$$\cos 30 = A/14 = 12.12$$

$$\cos 30 = A/9.5 = 8.23$$



**NORTH COAST
LABORATORIES LTD.**

April 08, 2005

John Ash Group
428 First Street
Eureka, CA 95501

Order No.: 0503588
Invoice No.: 49253
PO No.:
ELAP No. 1247-Expires July 2006

Attn:

RE: 004324, Umpqua Bank

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	SB-1-9.0
02A	SB-2-9.5
03A	SB-3-9.25
04A	SB-4-9.5
05A	SB-1
06A	SB-2
07A	SB-3
08A	SB-4

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

All solid results are expressed on a wet-weight basis unless otherwise noted.

REPORT CERTIFIED BY

Laboratory Supervisor(s)

QA Unit

Jesse G. Chaney, Jr.
Laboratory Director

North Coast Laboratories, Ltd.

Date: 08-Apr-05

CLIENT: John Ash Group
Project: 004324, Umpqua Bank
Lab Order: 0503588

CASE NARRATIVE

TPH as Motor Oil:

Sample SB-3 does not have the typical pattern of fresh motor oil. The material is heavier than motor oil. However, the result reported represents the amount of material in the motor oil range.

Date: 08-Apr-05
WorkOrder: 0503588

ANALYTICAL REPORT

Client Sample ID: SB-1-9.0
Lab ID: 0503588-01A

Received: 3/28/05

Collected: 3/28/05 9:15

Test Name: TPH as Diesel/Motor Oil

Reference: EPA 3550/GCFID(LUFT)/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	ND	1.0	µg/g	1.0	3/31/05	4/4/05
TPHC Motor Oil	ND	10	µg/g	1.0	3/31/05	4/4/05

Client Sample ID: SB-2-9.5
Lab ID: 0503588-02A

Received: 3/28/05

Collected: 3/28/05 10:30

Test Name: TPH as Diesel/Motor Oil

Reference: EPA 3550/GCFID(LUFT)/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	ND	1.0	µg/g	1.0	3/31/05	4/4/05
TPHC Motor Oil	ND	10	µg/g	1.0	3/31/05	4/4/05

Client Sample ID: SB-3-9.25
Lab ID: 0503588-03A

Received: 3/28/05

Collected: 3/28/05 12:40

Test Name: TPH as Diesel/Motor Oil

Reference: EPA 3550/GCFID(LUFT)/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	ND	1.0	µg/g	1.0	3/31/05	4/4/05
TPHC Motor Oil	ND	10	µg/g	1.0	3/31/05	4/4/05

Client Sample ID: SB-4-9.5
Lab ID: 0503588-04A

Received: 3/28/05

Collected: 3/28/05 13:50

Test Name: TPH as Diesel/Motor Oil

Reference: EPA 3550/GCFID(LUFT)/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	ND	1.0	µg/g	1.0	3/31/05	4/4/05
TPHC Motor Oil	ND	10	µg/g	1.0	3/31/05	4/4/05

Date: 08-Apr-05

WorkOrder: 0503588

ANALYTICAL REPORT

Client Sample ID: SB-1

Received: 3/28/05

Collected: 3/28/05 9:30

Lab ID: 0503588-05A

Test Name: TPH as Diesel/Motor Oil

Reference: EPA 3510/GCFID(LUFT)/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	ND	50	µg/L	1.0	4/6/05	4/6/05
TPHC Motor Oil	ND	170	µg/L	1.0	4/6/05	4/6/05

Client Sample ID: SB-2

Received: 3/28/05

Collected: 3/28/05 10:50

Lab ID: 0503588-06A

Test Name: TPH as Diesel/Motor Oil

Reference: EPA 3510/GCFID(LUFT)/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	ND	50	µg/L	1.0	4/6/05	4/6/05
TPHC Motor Oil	ND	170	µg/L	1.0	4/6/05	4/6/05

Client Sample ID: SB-3

Received: 3/28/05

Collected: 3/28/05 12:55

Lab ID: 0503588-07A

Test Name: TPH as Diesel/Motor Oil

Reference: EPA 3510/GCFID(LUFT)/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	ND	50	µg/L	1.0	4/6/05	4/6/05
TPHC Motor Oil	520	170	µg/L	1.0	4/6/05	4/6/05

Client Sample ID: SB-4

Received: 3/28/05

Collected: 3/28/05 14:15

Lab ID: 0503588-08A

Test Name: TPH as Diesel/Motor Oil

Reference: EPA 3510/GCFID(LUFT)/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Limit</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	ND	50	µg/L	1.0	4/6/05	4/6/05
TPHC Motor Oil	ND	170	µg/L	1.0	4/6/05	4/6/05

North Coast Laboratories, Ltd.

Date: 08-Apr-05

CLIENT: John Ash Group
Work Order: 0503588
Project: 004324, Umpqua Bank

QC SUMMARY REPORT

Method Blank

Sample ID: MB-13256	Batch ID: 13256	Test Code: TPHDMS	Units: µg/g	Analysis Date: 4/4/05 8:20:56 PM	Prep Date: 3/31/05
Client ID:	Run ID: ORGC7_050404B	SeqNo: 496821			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
TPHC Diesel (C12-C22)	ND	1.0			
TPHC Motor Oil	ND	10			
Sample ID: MB-13276	Batch ID: 13276	Test Code: TPHDMW	Units: µg/L	Analysis Date: 4/6/05 10:23:48 PM	Prep Date: 4/6/05
Client ID:	Run ID: ORGC7_050406A	SeqNo: 496868			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
TPHC Diesel (C12-C22)	ND	50			
TPHC Motor Oil	ND	170			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 08-Apr-05

CLIENT: John Ash Group
Work Order: 0503588
Project: 004324, Umpqua Bank

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: LCS-13256	Batch ID: 13256	Test Code: TPHDMS	Units: µg/g	Analysis Date: 4/4/05 6:27:45 PM	Prep Date: 3/31/05
Client ID:		Run ID: ORGC7_050404B		SeqNo: 496818	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
TPHC Diesel (C12-C22)	10.96	1.0	10.0	0	110%
TPHC Motor Oil	22.23	10	20.0	0	111%

Sample ID: LCSD-13256	Batch ID: 13256	Test Code: TPHDMS	Units: µg/g	Analysis Date: 4/4/05 6:46:31 PM	Prep Date: 3/31/05
Client ID:		Run ID: ORGC7_050404B		SeqNo: 496819	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
TPHC Diesel (C12-C22)	11.20	1.0	10.0	0	112%
TPHC Motor Oil	21.96	10	20.0	0	110%

Sample ID: LCS-13276	Batch ID: 13276	Test Code: TPHDMS	Units: µg/L	Analysis Date: 4/6/05 8:30:32 PM	Prep Date: 4/6/05
Client ID:		Run ID: ORGC7_050406A		SeqNo: 496865	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
TPHC Diesel (C12-C22)	599.1	50	500	0	120%
TPHC Motor Oil	1,202	170	1,000	0	120%

Sample ID: LCSD-13276	Batch ID: 13276	Test Code: TPHDMS	Units: µg/L	Analysis Date: 4/6/05 8:49:11 PM	Prep Date: 4/6/05
Client ID:		Run ID: ORGC7_050406A		SeqNo: 496866	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
TPHC Diesel (C12-C22)	594.0	50	500	0	119%
TPHC Motor Oil	1,207	170	1,000	0	121%

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank



5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

Chain of Custody

P. 1 of 1

0503588

LABORATORY NUMBER:

TAT: ☒ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5-7 Day
☒ STD (2-3 wk) ☐ Other: _____

PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS:

Preliminary: FAX ☐ Verbal ☐ By: / / Final Report: FAX ☐ Verbal ☐ By: _____/_____/_____

CONTAINER CODES: 1— $\frac{1}{2}$ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO₃; b—HCl; c—H₂SO₄; d—Na₂S₂O₃; e—NaOH; f—C₂H₅O₂Cl; g—other

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

Coal, intact

SAMPLE DISPOSAL

☐ NCL Disposal of Non-Contaminated

☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA

SHIPPED VIA: UPS Air-Ex Fed-Ex Bus/Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT